

IN THE CLAIMS

Claims 1 through 7 have been cancelled.

1-7 (Cancelled)

Claim 8 has been amended as follows:

8. (Currently amended) An x-ray source comprising:

an X-ray tube having an evacuated housing containing an interior space and having a housing projection forming a chamber in communication with said interior space via a neck region of said housing, said neck region forming a corner having an exterior surface at an exterior of said housing;

a cathode disposed in said chamber and an anode disposed in said interior space, said cathode emitting an ~~X-ray~~ electron beam that proceeds through said neck region and strikes said anode at a focus to generate X-rays from said focus; and

an electron beam deflector disposed at an exterior of said neck region of said housing for generating a magnetic field that interacts with said electron beam to deflect said electron beam to adjust a position of said focus on said anode, said electron beam deflector having a U-shape with two legs straddling said neck region at said corner, each of said legs having a leg surface facing said and contacting exterior surface of said corner, and each leg surface in combination with said exterior surface of said corner forming a channel adapted to allow a flow of coolant therethrough.

9. (Original) An X-ray source as claimed in claim 8 wherein each of said channels has a channel opening, and wherein said X-ray source comprises a nozzle having at least one nozzle opening disposed adjacent to said channel openings for directing a flow of coolant through said channel openings and through said channels.

10. (Original) An X-ray source as claimed in claim 9 wherein said nozzle has a V-shape and has two nozzle openings respectively disposed adjacent said channel openings.

11. (Original) An X-ray source as claimed in claim 8 wherein the respective surfaces of said legs facing said corner are flat, and define a generally triangular cross-section for said channels in combination with said corner.

Claim 12 has been amended as follows:

12. (Currently amended) A method for cooling an X-ray tube having an evacuated housing with a projection, through which an electron beam proceeding said projection forming a corner, having an exterior surface at an exterior of the housing and having an electron beam deflector disposed at an exterior of the housing for generating a magnetic field that interacts with the electron beam to deflect the electron beam, said electron beam deflector having a U-shape with two legs each having a leg surface, comprising the steps of:

forming a channel for a coolant by placing the respective legs of said electron beam deflector directly an element over said exterior surface of said corner having a surface facing said corner to define, in combination combine each leg surface with the exterior surface of the housing at said corner, said to form a channel; and

conducting coolant through said channel.

Claim 13 has been cancelled.

13. (Cancelled)

Claim 14 has been amended as follows:

14. (Currently amended) A method as claimed in claim 13 wherein the step of conducting coolant through each of said two channels comprises disposing a nozzle having a V-shape at an end of each of said two channels, and discharging coolant from said nozzle through each of said two channels.

15. (Original) A method as claimed in claim 12 wherein the step of conducting coolant through said channel comprises disposing a nozzle having a nozzle opening at one end of said channel, and discharging coolant from said nozzle through said channel.

Claim 16 has been cancelled.

16. (Cancelled)

Add the following new claims:

17. (New) An X-ray source as claimed in claim 8 wherein each leg surface in combination with said exterior surface of said corner forms a straight channel.

18. (New) An X-ray source as claimed in claim 17 wherein said straight channel defines a straight flowpath for said coolant entirely disposed substantially perpendicularly to said electron beam.

19. (New) A method as claimed in claim 12 comprising forming a straight channel by combining each leg surface with said exterior surface of said corner.

20. (New) A method as claimed in claim 19 comprising conducting coolant through said straight channel in a flowpath entirely disposed substantially perpendicularly to said electron beam.